


Slide 1 Course Introduction



Slide 2 Course Introduction

Laser Worker Training





Course Introduction


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NAVIGATION


Use the PREV and NEXT buttons to move through the course.

For a break, select the PAUSE  button. Select the PLAY  button to being playing again.


Select the  button to adjust the volume level.

Click and drag the progress bar button to move ahead  or review 

Your course progress will be saved automatically. You have three (3) days to complete this course before the bookmark expires, and you will need to restart the course.



See the resources page for a printable transcript of each module of this course.




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Slide 3 Course Introduction

Laser Worker Training test



Course Introduction

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COURSE REQUIREMENTS


Required for those:

- Who work with Class 3B and Class 4 lasers
- Service or maintain laser systems

Refresher every 36 months

Other possible training requirements:

- Electrical Safety
- Chemical Safety
- Fire Safety



Welcome to Laser Safety, a Department of Energy complex-wide course. This course outlines the foundational laser safety information that is generic and applicable to all DOE sites.


This course is required for employees who work with Class 3B or 4 lasers with exposed beams, as well as those who service and maintain a laser system where Class 3B or 4 laser radiation may be accessible during their activities.

This includes systems or products that - while normally Class 1 - have an embedded or enclosed laser that could expose an employee to Class 3B or 4 emissions during servicing and repair.

To maintain your laser safety qualification, refresher training is required every 3 years.

In addition to this course, you may have other training requirements associated with your specific laser operation including electrical, chemical, and fire safety.

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Course Introduction

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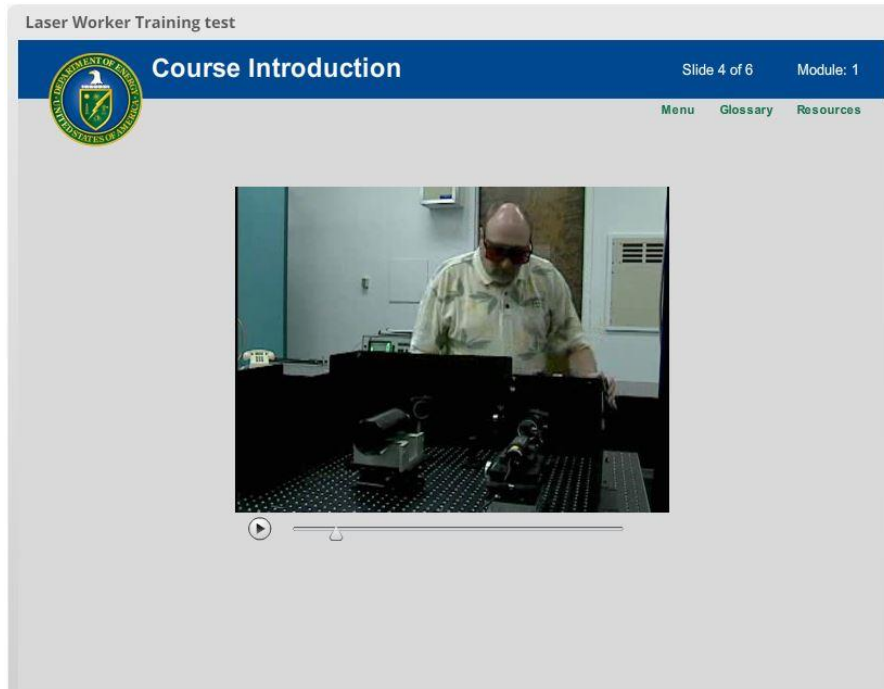
GOAL

Provide you with the knowledge required to work safely with or around lasers.



The goal of this course is to provide you with the knowledge required to work safely with or around lasers.

Slide 5 Course Introduction



Ed (Laser Operator) leaving the lab:

"Oh darn! I gotta put that optic back before I go to lunch. Ehhh, this should only take a minute... I've done this so many times before; I don't really need any eyewear - it just gets in the way."

Ed reenters the lab: "First, let's find the beam again. OK there it is. Now to place the optic..."

Ed shouts: "Oh Shoot! Did I get hit with the beam? Oh no, what is happening to my eye?"

Ed commentary: "You know, I don't think I thought as much about the safety with high powered lasers as I should have. It was brought home to me when I was partially blinded, in my left eye, by this reflection from a relatively weak Nd:YAG. 6 millijoules, 10 nanosecond, 1064 nm, so it was invisible. And, I chose not to wear protective eyewear even though they were available. There was a popping noise caused by a small explosion at the back of my eyeball. There was local pain but it wasn't excruciating even a few minutes after the accident. I guess my most immediate response probably was horror. I'm a Vietnam Vet and I've seen terrible things...human carnage. But I don't think anything affected me as much as looking through a blood filled eyeball. In the aftermath of this kind of event, I went into shock. Don't let this happen to you. You've got to think about being safe. You need to respect the laser."

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WHY THIS COURSE

Laser beams:

- Can be powerful
- Can be invisible
- Can injure your eyes and skin

Other non-beam hazards also exist:

- Electrocution
- Toxic gases
- Etc.

GOGGLES REQUIRED

Ed isn't alone. People become very familiar and very comfortable working around dangerous equipment, because they feel they know where the danger lies. However, it is that one unexpected moment or relaxed situation where injuries often occur. Lasers can be quite powerful, can be invisible, and can injure your eyes or skin before you can react. In addition, there are other non-beam hazards like electrocution and toxic gases that laser users must be aware of. Fact is, these injuries are all avoidable - if you understand the hazards, expect the unexpected, take your time, and follow all safety procedures fully for every piece of equipment. If Ed had just put his eyewear on, he would be unscathed and without a permanent eye injury.

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Laser Worker Training

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COURSE OUTLINE

✓ Module 1: Introduction 6 min.	Module 6: Administrative/Procedural Controls 11 min.
Module 2: Fundamentals 17 min.	Module 7: Personal Protective Equipment 13 min.
Module 3: Accidents 10 min.	Module 8: Fiber Optics 7 min.
Module 4: Bio Effects 15 min.	Module 9: Non-Beam Hazards 10 min.
Module 5: Engineering Controls 12 min.	Module 10: Regulations 6 min.

Click for Final Exam

This course covers a lot of material and, as you can see, is divided into several modules. Each module must be completed in order to progress to the final test. A module can be completed by either passing that module's pre-test, or by viewing that module's material. If you opt to take a module pre-test and fail, you will have to visit the entire module and then pass the end-of-module quiz. When you pass a module, you will be returned to the menu and a checkmark will appear next to that module's button.

You can also download the .PDF versions of the modules for your reference. Click the "RESOURCES" button.

Okay, let's begin with Laser Fundamentals.